

Application No. 10/660,685
Reply to Office Action dated October 31, 2008

Docket No.: 2644-0105P

AMENDMENT OF CLAIMS

Claims 1-21 (Canceled)

22. (Currently Amended) A dorsolumbar and lumbosacral vertebral fixation system, wherein the system ~~consists of~~ comprises one or various more connectors or couplings, a rod, a transversal traction device and ~~means of vertebral fixation elements, adapted to be assembled together with assembly carried out by the attaching the tail of the vertebral element coupling~~ red,

wherein the first assembly stage of the system being the introduction of the vertebral fixation elements, either to ~~the pedicle~~ pedicles or ~~the vertebral laminae~~, a second stage of the insertion of the rod through the connectors, and a third stage in which the connectors are connected to ~~the tails of the~~ vertebral fixation elements by means of locknuts.

23. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein the at least one connector or coupling is made up of an annular body and two clamp elements and an open swivel inserted inside the annular body.

24. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein, with the two clamp elements open in their natural position, the open swivel turns freely in the annular body in a radius exterior to the open swivel slightly smaller than an inside of the annular body, both being concentric radii.

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25. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein the two clamp elements have a transversal circular orifice into which the tail of the device for vertebral fixation is inserted.

26. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein the two clamp elements have an adjustable transversal orifice that allows for different tail positions of the device for vertebral fixation.

27. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein the open swivel is hollow with a circular shape through which the rod passes.

28. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein an exterior surface of the open swivel has a rough finish, which allows for better contact between surfaces when tightened.

29. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 23, wherein a screw tightness of the tail of the device for vertebral fixation on the two clamp elements, closes a body of the two clamp elements which, in turn, closes the open swivel, thus tightening onto the previously oriented rod, fixing it in place.

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30. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, an expansion screw is used as the device for vertebral fixation, the expansion screw being a hollow pedicle screw, smooth on the inside, through which a pin is passed.

31. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein a screw head of the expansion screw has an interior thread in order to threadably receive a screw head of the pin.

32. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw includes longitudinal slots that start towards a middle the expansion screw, the longitudinal slots being opened by fully inserting the pin .

33. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claims 30, wherein a diameter of a lower third of the expansion screw, when the pin is fully inserted, progressively increases towards an end of the expansion screw, until the diameter reaches a maximum at the end, between 20 and 30% when completely expanded.

34. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw is used in cases of osteoporosis vertebrae, reinterventions and for the sacral vertebrae, in order not to penetrate the anterior cortical layer.

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35. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein prior to the insertion of the expansion screw, the bone is tapered to the same thread as an external thread of the expansion screw.

36. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 30, wherein the expansion screw a longitudinal interior hollow conduit, with an internal taper towards an end of the expansion screw, in such a way that when the pin is inserted, without a head of the pin reaching the tail of the expansion screw, a tip of the pin reaches the internal taper.

37. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 36, wherein, when the head of the pin reaches the tail of the expansion screw, the tip of the pin opens the internal taper forcing longitudinal slots of the expansion screw to open out, expanding the expansion screw against the sponginess of the vertebral body.

38. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, a laminar hook is used as the device for vertebral fixation, the hook coupling onto the vertebral lamina by means of a hook finger, and the hook is screwed to the at least one coupling at a top thereof.

39. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, a pedicle hook is used as the device for vertebral fixation, the

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pedicle hook coupling onto the pedicle of the vertebra by means of a concave shape on a finger of the hook, and the hook is screwed to the at least one coupling at a top thereof.

40. (Previously Presented) The dorsolumbar and lumbosacral vertebral fixation system, as in claim 41, wherein, an open tail hook is used as the device for vertebral fixation, as a top connection directly to the rod, the open tail hook being closed and attached by means of a locknut and a locking setscrew.

41. (Previously Presented) A dorsolumbar and lumbosacral vertebral fixation system, comprising:

at least one connector or coupling;

a rod; and

a device for vertebral fixation;

wherein a tail of the device for vertebral fixation is attached to the at least one connector or coupling, and the at least one connector or coupling is attached to the rod,

a first assembly stage of the system is an introduction of the device for vertebral fixation to either the pedicle or the vertebral laminae,

a second assembly stage of the system is an insertion of the rod through the at least one connector or coupling, and

a third stage of the assembly includes connecting the at least one connector or coupling to the tail of the device for vertebral fixation.